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10/542,356	03/29/2006	Thomas Bertin-Mouroit	274867US0PCT	2688

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EXAMINER	
DO, ROBERT C	

ART UNIT	PAPER NUMBER
2851	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/542,356

Applicant(s)

BERTIN-MOUROT ET AL.

Examiner

Robert C. Do

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/7/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 2 is objected to because of the following informalities: Claim 2 suggest that the rear projection screen has a resolution of 5×10^3 to 1×10^5 dpi, but the examiner still believes that one in the art would believe that a rear projection screen does not determine the resolution that the image would be, but rather the imaging source. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 3, 5, and 13 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke (US 6,064,521) in view of Fujisaki et al. (US 3,726,583).

Regarding Claim 1, Burke discloses at least a first substrate (Fig. 12, 309) having a scattering layer (310) joined to a surface of the substrate, said layer being suitable for obtaining a viewing angle of less than or equal to 180 degrees on both faces of said

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layer. (Column 12, lines 21-23 discloses than an aspect of the invention is to produce an image that can be viewed from either side of the screen, this screen is suitable for obtaining a viewing angle of less than or equal to 180 degrees on both faces)

Burke does not disclose the scattering layer produces a subsurface effect.

However, Fujisaki et al. discloses a scattering layer (5) that produces a subsurface effect. (Column 3, lines 5-10 discloses thickness 5-100 micrometers for the scattering layer that would produce a subsurface effect)

Therefore it would have been obvious to one of skill in the art at the time the invention was made to make the thickness of the screen of Burke 5-100 micrometers giving the screen a subsurface effect for the purpose of making the screen lighter.

Regarding Claim 2, Burke as modified by Fujisaki et al. discloses wherein said subsurface effect produces a resolution of the screen ranging from 5×10^3 to 1×10^5 dpi. (Burke as modified by Fujisaki would have a subsurface effect producing this resolution)

Regarding Claim 3, Burke discloses wherein the scattering layer (Fig. 12, 309) is deposited on one of the faces of the first substrate (309) and a lamination interlayer (the screens are adhered together with a layer of glue) is deposited on the opposite face of the said first substrate (309), the said interlayer in turn being joined to a second substrate (308)

Regarding claim 5 Burke discloses, wherein the scattering layer (Fig. 12, 309) is deposited on one of the faces of a first substrate (309), the said first substrate being in turn joined to a second substrate (308) so as to form a double-glazing unit. (The three layers are joined together forming a double-glazing unit).

Regarding Claim 13, Burke does not disclose wherein the thickness of the scattering layer ranges from .5 and 5 micrometers.

However, Fujisaki et al. discloses the thickness of the scattering layer ranges from .5 and 5 micrometers. (Column 3, lines 5-10 discloses thickness 5-100 micrometers for the scattering layer)

Therefore it would have been obvious to one of skill in the art at the time the invention was made to make the thickness of the screen of Burke 5-100 micrometers for the purpose of making the screen lighter.

Regarding claim 14 Burke discloses, wherein at least one of the first, second and third substrates is a glass substrate. (Column 8, lines 28-30 disclose glass substrates)

Regarding claim 15 Burke discloses, wherein at least one of the first, second and third substrates is a transparent substrate based on a polymer. (Column 8, lines 28-30 discloses plastic substrates)

Regarding Claim 22, Burke disclose, dividing a viewing area into two different viewing zones (Front and rear of screen in Fig. 12) by employing the backprojection and/or projection screen according to claim 1 as a separating partition that defines a wall (309) between the two different zones, it being possible for each to benefit from information broadcast on either side of the partition. (Column 12, lines 21-23 discloses than an aspect of the invention is to produce an image that can be viewed from either side of the screen)

Regarding Claim 23, Burke discloses a separating partition (309) that defines a wall between two viewing zones (Front and rear of screen in Fig. 12) that comprises the backprojection and/or projection screen according to claim 1.

Regarding Claim 24, backprojecting and /or projecting broadcast information on either side of the separating partition that defines a wall (309) between the two different viewing zones as claimed in claim 22. (Column 12, lines 21-23 discloses than an aspect of the invention is to produce an image that can be viewed from either side of the screen)

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burke and Fujisaki et al. in view of Yoshida et al. (US 6,421,181).

Regarding Claim 4, Burke and Fujisaki et al.'s teachings have been discussed above.

Burke and Fujisaki et al. does not teach that the second substrate is a tinted substrate.

However Yoshida et al teaches a substrate that is tinted. (Column 5, lines 13-32 describe a tinted layer and its use in a screen)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the second layer in the screen of Burke and Fujisaki et al. tinted for the purpose of preventing the deterioration of contrast in images due to external light.

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5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burke and Fujisaki et al. in view of Gehring et al. (US 2002/0163722).

Regarding Claim 6 Burke and Fujisaki et al.'s teachings have been discussed above.

Burke and Fujisaki et al. does not teach a peripheral bead separating that face of the first substrate.

However, Gehring et al. teaches a peripheral bead (Fig. 4, 44) separating that face of the first substrate (See Fig. 4 and paragraph [0103]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a peripheral bead separating that face of the first substrate on to the film of Burke and Fujisaki et al. for the purpose of collecting light and focus it to relatively small spots near the area of the beads. (Gehring, paragraph [0008])

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burke and Fujisaki et al. in view of Toda et al. (US 2006/0033991).

Regarding Claim 7, Burke and Fujisaki et al.'s teachings have been discussed above.

Burke and Fujisaki et al. does not teach wherein the scattering layer consists of elements comprising particles and a binder, the binder allowing the particles to be mutually agglomerated.

However Toda et al. teaches wherein the scattering layer (Fig. 98) consists of elements comprising particles (2 through 4) and a binder (13), the binder allowing the particles to be mutually agglomerated (Paragraph [0162]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the scattering layer of Burke and Fujisaki et al. consist of elements comprising particles and a binder as taught by Toda for the purpose of moderating the directivity of light reflected by the screen and uniforming the luminosity over the entire screen (Toda et al. Paragraph [0037]).

Regarding Claim 21, Burke and Fujisaki et al. as modified by Toda discloses the claimed invention except for wherein the binder content of the light scattering layer ranges from 10 to 40% by volume. Toda discloses the binder and one of ordinary skill in the art would know that there would have to be a certain number of binder, so therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the binder of Toda range from 10 to 40% by volume for the purpose of moderating the directivity of light reflected by the screen and uniforming the luminosity over the entire screen (Toda et al. Paragraph [0037]), since it has been held that where the general working conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

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7. Claims 8, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke and Fujisaki et al. in view of Toda et al. further in view of Kaminsky et al. (US 7,046,439).

Regarding Claim 8, Burke and Fujisaki et al. as modified by Toda et al.'s teachings have been discussed above.

Burke and Fujisaki et al. as modified as by Toda et al. does not teach that the particles are metal or metal oxide particles.

However, Kaminsky et al. teaches that the particles are metal or metal oxide particles. (Column 2, lines 1-13 teach particles using metal oxide)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the particles of Toda et al. out of a metal oxide because they have high refractive indexes making them desirable for scattering light to increase contrast.

Regarding Claim 9, Burke and Fujisaki et al. as modified by Toda et al.'s teachings have been discussed above.

Burke and Fujisaki et al. as modified as by Toda et al. does not teach wherein the particles are chosen from silicon, aluminium, zirconium, titanium and cerium oxides, or a mixture of at least two of these oxides.

However, Kaminsky et al. teaches wherein the particles are chosen from silicon, aluminium, zirconium, titanium and cerium oxides, or a mixture of at least two of these oxides. (Column 11, lines 46-55 teach of silica, alumina, zinc, titania and mixtures of them)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the particles of Toda et al. out of silicon, aluminium, zirconium, titanium and cerium oxides, or a mixture of at least two of these oxides because they have high refractive indexes making them desirable for scattering light to increase contrast.

Regarding Claim 10, Burke and Fujisaki et al. as modified by Toda et al.'s teachings have been discussed above.

Burke and Fujisaki et al. as modified as by Toda et al. does not teach wherein the particle size is between 50 nm and 1 μ m.

However, Kaminsky et al. teaches wherein the particle size is between 50 nm and 1 μ m. (Abstract teaches that the particles size is less than 100nm)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the particles of Toda et al. a size that is in between 50 nm and 1 μ m because they are less visible when in that size range when compared to larger particles used in other screens.

8. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke and Fujisaki et al. and Toda et al. in view of Kaminsky et al. further in view of Etori et al. (US 2001/0005282)

Regarding Claim 11, Burke and Fujisaki et al. and Toda et al. as modified by Kaminsky et al.'s teachings are shown above.

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Burke and Fujisaki et al. and Toda et al. as modified by Kaminsky et al. does not teach wherein the binder essentially consists of a glass frit or melting agent.

However, Etori et al. teaches wherein the binder essentially consists of a glass frit or melting agent. (paragraph [0033])

Regarding Claim 12, Burke and Fujisaki et al. and Toda et al. as modified by Kaminsky et al.'s teachings are shown above.

Burke and Fujisaki et al. and Toda et al. as modified by Kaminsky et al. does not teach wherein the glass frit or melting agent is based on a mixture of zinc oxide, boron oxide, sodium oxide and silica. (paragraph [0035])

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the binder of Toda et al. out of a glass frit where the glass frit is based on a mixture of zinc oxide, boron oxide, sodium oxide and silica for the purpose of obtaining a high see-through property and becomes suitable for the screen. (Etori et al. paragraph [0033])

9. Claims 16, 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burke and Fujisaki et al., whose teaching are shown above, in view of Iwata et al. (US 6,327,088).

Regarding Claim 16, Burke and Fujisaki et al. do not disclose wherein at least one of the first, second and third substrates includes a coating having another functionality, especially a coating with a low-emissivity function or an antistatic, antimisting, antifouling or antireflection function.

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However, Iwata et al. discloses wherein at least one of the first, second and third substrate possesses a coating having a function other than light scattering. (Column 9 lines 39-42 describes and antireflection function)

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the antireflection function of Iwata et al. to the screen of Burke and Fujisaki et al. for the purpose of reducing glare.

Regarding Claim 20, Burke and Fujisaki et al. do not disclose wherein said coating has a low-emissivity function or an antistatic, antimisting, antifouling or antireflection function.

However, Iwata et al. discloses wherein said coating has a low-emissivity function or an antistatic, antimisting, antifouling or antireflection function. (Column 9 lines 39-42 describes and antireflection function)

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the antireflection function of Iwata et al. to the screen of Burke and Fujisaki et al. for the purpose of reducing glare.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Do whose telephone number is (571)272-1387. The examiner can normally be reached on Monday Through Friday, 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571)272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RCD



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